



# Illinois Department of Transportation

## Memorandum

---

To: DEPUTY SECRETARIES, DIRECTORS AND BUREAU CHIEFS

From: Becky Koehler  
Bureau Chief of Personnel Management

Subject: Technical Vacancy

Date: January 23, 2018

---

Attached are the Position Summary Sheet and Position Description for the vacant technical position listed below. Please post this vacancy announcement Thursday, January 25, 2018 in the designated areas.

The deadline for applicants to submit their applications for consideration is **4:30 p.m. on Wednesday, February 7, 2018**. Applications will not be accepted after that time and date.

**NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are received, the applications may be screened to establish a smaller pool of applicants for interview. The screening will be based on the information contained in the application.**

If you have any questions, please contact the Bureau of Personnel Management at 217/782-5594.

CE IV

Bridge Inspection Engineer  
Region 3/District 5/Bureau of Operations  
Office of Highways Project Implementation  
Paris

Attachments  
42473

Technical Applications [PM1080 rev 6/1/17](#)\*\*must be received by the Bureau of Personnel Management, Room 113, 2300 South Dirksen Parkway, Springfield, IL 62764 (Fax# 217/557-3134) or emailed to [DOT.CO.BPM.EmploymentApplications@Illinois.gov](mailto:DOT.CO.BPM.EmploymentApplications@Illinois.gov) by **Wednesday, February 7, 2018, 4:30 p.m.** Please include address, daytime phone and position for which applying if not already listed on application. Applicants will be notified in writing to schedule interviews.

**NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are received, the applications may be screened to establish a smaller pool of applicants for interview. The screening will be based on the information contained in the application.**



**Illinois Department  
of Transportation**

An Equal Opportunity Employer

## Position Summary Sheet

<b>Classification:</b>	<b>Civil Engineer IV</b>	<b>Salary:</b>	<b>\$5,800 - \$7,515*</b>
<b>Position Title:</b>	<b>Bridge Inspection Engineer</b>	<b>Union Position:</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Position Number:</b>	<b>PW114-23-55-506-00-01</b>	<b>IPR#:</b>	<b>42473</b>

---

### Office/Central Bureau/District/Work Address:

Office of Highways Project Implementation/Region 3/District 5/Bureau of Operations/13473 IL Hwy 133 W., Paris, IL

---

### Description Of Duties:

This position is accountable for detailed inspection of bridges and structures throughout the District to fulfill the requirements of the FHWA National Bridge Inspection Standards, those of the district and state maintenance policies, management of the District's Bridge Inspection Specialist team; preparation of necessary reports and forms and input of required data into the Bridge Inspection System (BIS) and Illinois Structure Information System.

---

### Special Qualifications:

#### **Required:**

- Current Illinois Professional Engineer license
- Valid driver's license
- Districtwide and occasional statewide travel
- Ability to work at heights and within confined spaces, and utilize respirators
- Must be a National Bridge Inspection Standards (NBIS) Team Leader as defined by the Bureau of Bridges and Structures Structural Services Manual Section 3.9.2.4 and have a Bridge Element Level Inspection Certification, or achieve these qualifications within twelve months of hire date
- 24-hour emergency call availability

#### **Desired:**

- Six years' experience in civil engineering including four years of supervisory responsibility of which three years should be in the specific area of highway engineering
- Ability to plan, organize and establish priorities
- Strong supervisory skills
- Strong oral and written communication skills, and experience communicating with the media and public

---

### Shift/Remarks:

7:00 am - 3:30 pm / Monday - Friday

\*Individual salary offers are computed based on an applicant's current position and experience level in comparison to the posted title as well as internal equity of staff in the organizational unit.

\*\*Technical Application PM1080 (revised 6/1/17) is required. No previous version of the PM1080 will be accepted.

**ILLINOIS DEPARTMENT OF TRANSPORTATION  
POSITION DESCRIPTION**

<b>DATE:</b>	November 8, 2017	<b>POSITION:</b>	Bridge Inspection Engineer
<b>APPROVED BY:</b>		<b>OFFICE:</b>	OHPI/R3/D5 Bureau of Operations
<b>CODE:</b>	PW114-23-55-506-00-01	<b>REPORTS TO:</b>	Bridge Maintenance Engineer

---

***Position Purpose***

This position is accountable for detailed inspection of bridges and structures throughout the District to fulfill the requirements of the FHWA National Bridge Inspection Standards, those of the district and state maintenance policies, management of the District's Bridge Inspection Specialist team; preparation of necessary reports and forms and input of required data into the Bridge Inspection System (BIS) and Illinois Structure Information System.

***Dimensions***

Subordinate Personnel:	Direct 2; Seasonal 4-8
Total Number of Bridges and Drainage Structures, Including Major River Crossings:	700 Inventory; 760 Non-Inventory Structures
Total Number of Bridges over Waterways Requiring Streambed Investigations :	Approximately 300
Total Number of Bridges Requiring Fracture Critical Inspections:	8
Total Number of Bridges Requiring Pin & Link Inspections:	4
Total Number of Signing and Lighting Structures Requiring Inspections:	Approximately 200
Annual Inspections Mandated by State and NBIS:	700 to 800
Annual Underwater Inspections:	5
Annual Fracture Critical Inspections:	4
Annual Signing and Lighting Inspections:	50

***Nature and Scope***

This position reports to the District Bridge Maintenance Engineer. Reporting directly to this position is the Bridge Technician Inspection Specialist. Bridge inspection personnel and highway maintainer(s) on loan from other bureaus or team sections report to this position as required by operational needs.

The duties of this position are complex due to the large number and variety of bridges and structures involved. Access to critical areas of many structures is poor, making adequate inspection very difficult. The incumbent's analysis and recommendations have appreciable impacts on the safety of motorists, preservation of structures, and plans and procedures for temporary or permanent repair. Bridges are a large investment of public funds and timely, accurate inspections are crucial to the success of the bridge management program. Proper inspection and evaluation according to standards, policies and engineering judgment protects this investment, attempts to prevent structural failures, and increases the level of public safety. The incumbent properly and adequately advises the District Bridge Maintenance Engineer of structural deficiencies or potential problems. The incumbent must be knowledgeable of bridge nomenclature and possess the ability and special training to recognize structural problems related to fracture critical members and scour in various bridge designs. The incumbent must be able to work at heights and within confined spaces, and utilize respirators. The incumbent must be proficient at plan preparation and will be required to assemble various plan sets for Day Labor repairs, sign truss replacements, and painting contracts.

Typical overhead sign structure problems include properly recognizing and analyzing weld cracks in truss members; recognizing loose anchor bolts and miscellaneous hardware; and the scheduling of minor repairs that if left unaccomplished could have a significant negative impact on the longevity of the sign structures. Typical bridge

problems include properly recognizing and analyzing bridge pin and link assembly deficiencies and recommending repair or rehabilitation; recognizing seized bearings and pin-hanger assemblies; recognizing and analyzing structural steel for section loss, fatigue and weld cracks; analyzing concrete in beams and substructure units for deterioration or displacement; and analyzing channels for scour. The greatest challenge in the course of the inspections is to find deficiencies, establish the cause of the deficiencies discovered, and recommend corrective action.

This position, with a staff, assists in the ongoing detailed inspection and minor preventative maintenance of all state-maintained bridges, district inventoried drainage structures, and state-maintained signing and lighting structures. This includes, but is not limited to, bridges requiring inspection of fracture critical members, pin and link assemblies, and underwater inspections of those with potential scour. This work includes obtaining field measurements, photographs, surveys, assessment of structural conditions, and compilation of complete inspection forms and reports for various bridges and structures. This position evaluates structural problems, assesses damages, and makes recommendations for maintenance and repair. Proper performance of these duties is critical in order to ensure the safety of the highway user, protect the public's investment in bridges inspected, and fulfill requirements of the National Bridge Inspection Standards. The incumbent assembles an inventory of bridges, schedules inspections, and may supervise necessary repairs. This position requires 24-hour emergency call availability.

This position accomplishes accountabilities through the following:

- Bridge Technician Inspection Specialist - who, with the assistance of temporarily assigned Engineering Technician(s) and Highway Maintainer(s), prepares detailed notes and takes photographs of components inspected; obtains stream bed profiles and clearances; assembles data in reports; and enters inspector ratings into the Bridge Inspection System. S/He researches and remains current with the latest available design, construction, and repair policy, techniques, and data.
- Seasonal Civil Engineer(s) and Engineering Technician(s) - who assist in the inspection of sign structures and bridge structures and completion of the district Bridge Inspection Program on a temporarily assigned basis.
- Temporarily Assigned Highway Maintainer(s) - who safely operate and maintain specialized bridge inspection equipment. The Highway Maintainers are assigned to the Bridge Inspection Specialist team on an as-needed basis.

The incumbent works within the guidelines of the National Bridge Inspection Standards, IDOT Structural Services Manual, the Federal Highway Administration's Bridge Inspector's Reference Manual, IDOT State Maintenance Policies, Sign Structure Inspection Manual, Bureau of Personnel rules and various labor agreements.

Internal contacts are with the district Bureaus of Program Development for existing plan review and plan preparation requirements, for reference to the Bridge Inventory, and Project Implementation for "as built" plans, material certification and tests. S/He has contact with the Central Bureaus of Operations and Bridges and Structures to remain current with inspection requirements and to share detailed technical information and analysis techniques or standards. The incumbent has external contacts with the Federal Highway Administration, consultants, contractors, and Local Agency officials. Districtwide and occasional statewide travel is required.

The effectiveness of this position may be measured by the results achieved in complying with the requirements of the National Bridge Inspection Standards. This includes and is documented by the quantity and quality of inspections and reports completed. Ultimate effectiveness is measured in the level of safety and integrity of the bridges and structures maintained.

**Principal Accountabilities**

1. Plans, directs and controls the district Bridge Inspection Specialist Team in the continuing detailed field inspection of district bridge structures to ensure compliance with the National Bridge Inspection Standards.
2. Conducts field inspections of fracture critical structures and pin and link assemblies, underwater bridge inspection, and scour analysis to meet the requirements of the National Bridge Inspection Standards.
3. Conducts inspections of signing and lighting structures in accordance with the Sign Structure Inspection Manual.
4. Detects and analyzes structural problems encountered during inspections and makes specific recommendations based on observations and structural expertise. Evaluates the seriousness of all problems encountered and takes appropriate action as required.
5. Conducts field investigations and evaluations of damaged bridges and bridge deficiencies.
6. Completes all necessary reports concerning bridge inspections and the accurate entry of required data into the Bridge Inspection System and Illinois Structure Information System. Requests reports and analyzes information from the system.
7. Ensures safe operation and maintenance of the specialized equipment and vehicles used by the inspection crew.
8. Remains knowledgeable of the National Bridge Inspection Standards and technological developments relating to bridge inspection through training and other resources.
9. Demonstrates techniques, evaluates, and motivates staff to ensure staff development and competence.
10. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.
11. Performs other duties as assigned.